DOCUMENT RESUME

ED 437 530 CE 079 602

TITLE	The Impact of Labour Market Information on Vocational Education and Training Standards. Advisory Forum Subgroup C.
INSTITUTION	European Training Foundation, Turin (Italy).
REPORT NO	ETF-AF99-001
PUB DATE	1999-00-00
NOTE	47p.; For related subgroup reports, see CE 079 600-603.
AVAILABLE FROM	Web site: http://www.etf.eu.int/etfweb.nsf/pages/downloadstandards.
PUB TYPE	Reports - Research (143)
EDRS PRICE	MF01/PC02 Plus Postage.
DESCRIPTORS	*Academic Standards; *Data Collection; Foreign Countries; Influences; Information Needs; *Information Utilization; *Labor Market; *Occupational Information; Postsecondary Education; Questionnaires; Research Methodology; Secondary Education; *Vocational Education
IDENTIFIERS	*European Union; Impact Studies; International Surveys

ABSTRACT

Members of a subgroup of the European Training Foundation's Advisory Forum were surveyed regarding the impact of labor market information on vocational education and training (VET) standards. The survey questionnaire, which was developed after a literature search, was designed to identify how labor market information influences vocational standards and how the influence can be measured and evaluated. According to the 12 returned questionnaires, the most common sources of labor market information were state institutions, VET institutions, employers and employer organizations, and occupational groups. The most common ways of identifying and collecting labor market information reported were conducting special surveys and collecting and collating existing data, and the labor market information was most commonly expressed in terms of work activities and economic trends. Respondents said labor market information influenced VET policy initiatives, curriculum design, and national training standards. All aspects of the VET system (input, process, and outcomes) were said to be influenced by labor market information. It was recommended that the influence of labor market information be evaluated quantitatively and qualitatively at four levels: reactions, learning, job behavior, and results. (Twelve tables/figures are included. Appended are the following: questionnaire; questionnaire responses; subgroup C workshop briefing notes; and discussion of flexible standards.) (MN)

Reproductions supplied by EDRS are the best that can be made
from the original document.

ETF-AF99-001

European Training Foundation

ED 437 530

Advisory Forum
Subgroup C

THE IMPACT OF LABOUR MARKET INFORMATION ON VOCATIONAL EDUCATION AND TRAINING STANDARDS

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
☑ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL HAS BEEN GRANTED BY
J Austin
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

1

BEST COPY AVAILABLE

CE079602

TABLE OF CONTENT

page

Section 1: Background and Rationale 5

A. The Study - Phase 1 - Review of literature and development of a questionnaire 5

B. The Study - Phase 2 - The questionnaire response and the meeting of the Subgoup 5

C. Acknowledgements 5

D. What is a Standard? 6

E. Standard – definitions 6

F. Training (vocational) standards and occupational standards 8

G. What is competence? 8

H. Standards and competence - summary 10

Section 2: The role of the vocational education and training system 11

A. The rationale for this study 11

B. The purpose of the vocational education and training system 12

C. Rapid change and economic turbulence 13

D. The vocational education and training response 14

Section 3: Changes and trends in the labour market 16

A. The sources of labour market information 16

B. The nature of change 18

C. Changes in technology 18

D. Changes in regulations (including legal statutes and codes of practice) 20

E. Changes in markets and customer requirements 21

F. Changes in work organisation and organisational culture 22

G. The change cycle 25

Section 4: The vocational education and training response to labour market changes 27

A. Types of vocational education and training response 27

B. Levels of vocational education and training response 28

Section 5: Evaluating the vocational education and training response 29

A. Quantitative and qualitative measures 29

B. A framework for evaluation 30

Section 6: The vocational education and training response - summary 31

Major themes 31

Section 7: Conclusions and recommendations 34

A. Conclusions 34

B. Recommendations 35

SECTION 1: BACKGROUND AND RATIONALE

Subgoup C of the European Training Foundation's Advisory Forum has been working on the theme "Standards in vocational training" since its establishment in 1994. Each year, the Subgoup has studied a key topic:

1995 Principles and definition of standards

1996 Standards development

1997 Implementation of standards in vocational training

1998 The evaluation of vocational standards

The study for 1999 (this study) has the title "Impact of the Labour Market on Vocational Standards. The aims of the study are:

- to examine how Labour Market Information influences vocational standards;
- to examine how the influence can be measured and evaluated.

A. The Study - Phase 1 - Review of literature and development of a questionnaire

The study started in January 1999. Following a review of relevant literature sources a questionnaire was developed which identified key issues and concerns drawn from the literature. The questionnaire was sent to a number of Advisory Forum members during February 1999. The questionnaire asked for both comments and examples of good practice in partner countries. The questionnaire is reproduced in Annex 1.

B. The Study - Phase 2 - The questionnaire response and the meeting of the Subgoup

The responses to the questionnaire are summarised in the matrix in Annex 2. The responses were used to produce three workshop briefing notes which were used as working documents during the meeting of the Subgoup, which took place in Turin on 22 and 23 March 1999. The briefing notes are reproduced in Annex 3.

The Subgoup met in plenary and in smaller working groups to discuss the workshop themes. Comments and contributions were recorded and form the basis of this report.

C. Acknowledgements

The author would like to take this opportunity to thank all the members of Subgoup C for their help and support in the production of this report. The members of the Subgoup are listed in Annex 4.

Particular thanks are due to Konstatin Petkovski, Chairman of Subgoup C, who continued to provide support and encouragement despite the social and political upheavals in FYROM, and to Thomas Schröder of the European Training Foundation who offered helpful comments, suggestions and feedback throughout the drafting of the report.

Bob Mansfield
PRIME Research and Development Ltd
June 1999

D. What is a Standard?

This report is about vocational standards. This section looks at the ways in which the term 'standard' is used in vocational education and training.

E. Standard – definitions

The word 'standard' has four meanings in English. According to the Cobuild Dictionary of English Usage, a standard is:

Meaning	Example
1. A level of quality or achievement	*there are national **standards** for hospital cleanliness*
2. Something you use in order to judge the quality of something else	*the equipment failed to meet the **standard** for electrical safety*
3. Moral principles which affect behaviour	*s/he has high moral **standards***
4. Things which are normal or usual	*this car has **standard** equipment*

There is also a definition of 'standard' in the European Training Foundation Glossary of Labour Market Terms and Standard and Curriculum Development Terms:

Standards

1. A standard is the level of achievements thought to be acceptable - for example *The work is below the standard required.*
2. The term is also used in English to mean a principle which is expected to influence people's attitudes and behaviour, as in His behaviour falls far short of the standards expected of a public figure.

Comment

Definition 1

A standard (or a set of standards) is used to measure or estimate the quality or degree of something. A standard may be quantitative (as is often the case in defining product and productivity standards). It may also be a qualitative measure (as in *Her acting sets the standard of other performers*), or it may combine quantitative and qualitative measures (as is common in *design standards, performance standards and occupational standards*).

BEST COPY AVAILABLE

Standards within the vocational education and training system may be legal or statutory requirements*, or adopted voluntarily by social partners*, or individual organisations, such as professional bodies, educational institutions, employers or trade associations. They may be based on an agreed model of competence*, on a curriculum or on an agreed set of expectations and requirements.

Related Terms

Co-ordinated System of Standards
Criterion-Referenced /Normative Standards
Occupational Standards/ National Occupational Standards
Professional Standards
Qualification Standards
Quality Standards
Standards Setting

Vocational Standards, National Vocational Standards

The European Training Foundation manual (Volume 1), Development of Standards in vocational education and training defines a standard and also identifies the essential components:

What do we mean by a standard?

Standards describe the work tasks to be carried out within the framework of a specific occupational activity as well as the related knowledge, skills and abilities. Standards may be binding. Everyone who runs vocational training programmes must comply with them.

What does an occupational standard include?

The sub-group agreed on the following components:

(1) Occupational profile/training or task profile: the standard describes which set of activities one must be able to execute in which order (e.g. independently or following instructions) if one wishes to successfully pursue the occupation concerned or the corresponding activity;
(2) Examination requirements: stipulation of tasks which are to be mastered at the end or in the course of training and which minimum level of knowledge and skill must be shown in order to pass the examinations (in addition how the examination is in principle to be made up will be stated - e.g. contents of oral and written parts).
(3) Entry requirements: stipulation of educational certificate/competencies to be held in order to begin the corresponding course. (In Germany no certificates are required for entry into the 'dual system' of vocational education and training. In principle everyone can start it. This is an exception. Most countries stipulate which educational preconditions must be met.)
(4) Curriculum: a description (more or less detailed) of the learning goals, the theoretical and practical contents to be taught as well as the structure and duration of individual sections and the entire training course in the standard.

For the purpose of this report, we will define a standard as a **specification**. This is consistent with all of the descriptions given above. A specification describes what should happen or what something should be like. A specification can be used to plan and produce something and also to check that what has been done is acceptable. For example, a design specification for a building will tell the builder how to plan and design the structure and will also be used by the architect to check that the building has been built properly. A vocational education and training standard can be used to

BEST COPY AVAILABLE

plan and design a vocational education and training programme and to check that the people who attend the programme are competent.

Conventionally, we think of vocational education and training as having three components:

- **The input** – the description of what should be learned (usually called the curriculum);
- **The process** – a description of the way in which learning will take place (which will include the location and duration of learning, learning methods etc);
- **The outcome** – the level of competence which the learner is expected to achieve (this may be described as learning outcomes for a training or educational standard or a performance outcome for an occupational standard).

F. Training (vocational) standards and occupational standards

In describing the outcome in the previous paragraph we have distinguished between two types of standard – a **training (or vocational) standard**, which specifies the inputs, processes and outcomes of a vocational training programme and an **occupational standard** which describes what a person should be able to do in employment. This distinction is important because an occupational standard only describes the outcomes – what a person should achieve at work. In an effective vocational education and training system there will be a close relationship between the educational outcome (the educational standard) and the occupational requirement (the occupational standard).

The idea of a specification can be applied to any of the three components of vocational education and training – we can specify (set a standard) for the input, the process and the outcome.

G. What is competence?

Then term 'competence' is often used in association with the term 'standard'. Competence is a potentially ambiguous word and is used to mean a number of different things in vocational education and training. The Cobuild Dictionary of English Usage defines 'competent' as:

> **Competent:** someone who is competent is efficient and effective.
>
> Example 1: he was a loyal, distinguished and very competent civil servant.
> Example 2: a competent performance.

BEST COPY AVAILABLE

However, in vocational education and training 'competent' and 'competence' are used in at least four different ways:

1. **Competent (adjective):** As in 'a competent person'. In this context, competent means the ability to perform efficiently and effectively. Particular sectors and industries often have an implicit concept of what competent performance means for particular occupational groups. Consequently, 'competent' is often taken to imply a minimum level of performance across a very narrow range of activities, such as in the use of the terms 'barely competent' or 'threshold competence'. By contrast the concept can also mean the ability to meet 'best practice' requirements.
2. **Competence (noun):** the state of being competent - in normal English usage, 'competence' can only be used as part of a noun phrase - eg 'occupational competence', 'the competence of a manager'.
3. **Competence/s (noun):** a task which someone performs (US usage).
4. **Competence/ies (noun):** An underlying characteristic of a person which results in effective or superior performance. This refers to specific behaviour and may be expressed as a motive, trait, skill, aspect of self image, social role or body of knowledge which is applied. Widely used in American and UK literature on management training.

It is worth noting that uses 3 and 4, which have a plural form, break a rule of English grammar. In English there are two types of noun, 'count nouns' and 'uncount nouns'. Count nouns are the more common - the words 'occupation' and 'profession' are count nouns because they can be made into plurals - 'occupations' and 'professions'. But you can't do this with some nouns – for example, nouns like training and furniture. These are uncount nouns, and you have to add another noun to make a 'noun phrase' - like 'a programme of training' or 'a piece of furniture'. Without the additional words to make the noun phrase, these nouns can't appear in a plural form - *trainings* and *furnitures* are not proper words - two programmes of training and three pieces of furniture are the proper usage. The plural form is carried by the second noun – 'programmes' and 'pieces'.

The noun 'competence' is also an uncount noun - that means it cannot appear on its own as a noun - it needs another noun to make sense - and it also needs another noun to make a plural form. So we can say the *competence of a manager* and *the competence of managers* - but English grammar, as it currently exists, does not recognise the noun 'a competence' - even less, the invented plurals 'competences' or 'competencies'[1].

---

[1] This discussion is expanded in 'What is Competence all about', Bob Mansfield, Published in *Competency*: The Quarterly Journal, Spring and Summer 1999.

What is clear is that the use of the term 'competence' as a noun can cause confusion because it can describe quite different things – the tasks people perform (what they can do) and the characteristics they possess (what they are like). Because of this potential confusion, this report only uses 'competence' in the first two senses – as the ability to perform efficiently and effectively (meaning 1) and the state of being competent (meaning 2).

H. Standards and competence - summary

This report uses the terms 'standard' and 'competence' in the following ways:

- A **training (or vocational) standard**, is a specification which can include the inputs, processes and outcomes of a vocational training programme.
- An **occupational standard** is a specification of what a person should be able to do in employment – it only describes the outcome (what should be achieved).
- **Competence** is the ability to meet a standard (an educational outcome or an occupational standard).
- A **competent person** is someone who can meet a standard (an educational outcome or an occupational standard).

SECTION 2: THE ROLE OF THE VOCATIONAL EDUCATION AND TRAINING SYSTEM

A. The rationale for this study

All vocational education and training systems face the challenge of matching the skills, knowledge and attitudes which are developed in the students of the system, to the needs of employment - the labour market. The challenge in the partner states is usefully summarised by Andries de Grip, writing in a recent European Training Foundation report[2].

> In the former centrally planned economies, there was an inherent close link between the systems of production and training. This close link made it possible for information on skill demand and supply to flow between the production system and the vocational education and training (vocational education and training) system. The abolition of the centrally planned economies has made it necessary to re-establish the links between the vocational education and training system and the labour market within the framework of a market economy.

In the centrally planned economies, vocational education and training planning was 'mechanical' - a simple calculation. Because production was forecast and controlled, the numbers of people required in sectors and even specific enterprises was easy to predict. As the economies move through the transition phase, partner states are facing the problems of meeting labour market demands within the logic of a market economy.

In a market economy, the motivation to produce products and services comes from the desire to generate surplus value by producing those goods and services which customers will buy - within an environment where other companies are competing for the same customers. As customer demand fluctuates, influenced by a number of social and economic factors, the demand for the quantity of labour and particular skills and knowledge will also change. The change will impact on the economy as a whole and on individual companies. vocational education and training planning cannot work from a mechanical model in these circumstances - within a marketplace which is in a state of continuous change. From a simple calculation, vocational education and training planning becomes a complex equation, balancing and taking account of many factors which vary considerably in their predictability.

---

2 Labour market forecasts on behalf of the vocational education and training system, Andries de Grip, in Linking Labour Market Analysis and Vocational Training, European Training Foundation, Turin, 1998.

The experience of the western European economies in meeting this challenge has been to improve the clarity and accuracy of the information needed for both parts of this equation. Improvements have been made in the quality of the economic and statistical information which is used to describe and predict the labour market. Improvements have also been made to the ways in which the vocational education and training system describes the learning process and the learning outcomes - so that the skills and knowledge which are developed can be clearly matched to labour market needs. The most important feature of this change has been the development of **vocational standards**[3] - specifications of the educational 'inputs' (the curriculum), the learning process and the learning outcomes.

In this study, our focus is on the development of vocational standards and the ways in which this is influenced by labour market information.

B. The purpose of the vocational education and training system

The purpose of the vocational education and training system is to develop sufficient people with the right skills to meet labour market demands. A permanent dilemma for vocational education and training planners is that they are planning the development of people for **future** labour markets, based on information from **past** labour markets. This can lead to cycles of skills shortages followed by the over supply of skills.

In the past, considerable research effort has been dedicated to improving the methods used to predict changes in the labour market. Much of this research is quantitative - designed to predict the numbers of people required in different occupational categories. This research is important - but it is not the main focus for this work. Rather, this study examines the changing **content** of occupations which results from rapid changes in the structure of the labour market and how this can be reflected in vocational standards.

The need to understand the changing content of occupations is a prominent theme in the available literature on labour market analysis. The European Training Foundation report 'Linking Labour Market Analysis and Vocational Training' contains a useful summary of this issue. We quote three extracts below (we have added highlights in bold to emphasise particular points):

> "Decision making for vocational training ... needs to be based on sound labour market analysis in order to:
>
> - monitor actual labour market developments
> - forecast occupations and qualifications to identify future skill and training requirements
>
> But ... **forecasting can only provide early warning signs ... it does not provide a basis for 'mechanical' planning**."

---

3 The development and expression of vocational standards is discussed in the European Training Foundation publication Development of standards in vocational education and training, Margret Kunzmann, Ute Laur-Erst and Bernd Hoene, March 1998.

"The traditional methods, concepts and parameters of labour market analysis are under scrutiny (examination) to see if and how they can capture changes that are actually taking place within the functioning of the labour market - in particular:

- a dynamic analysis of the labour market taking into account not only the actual situation but also **processes, tendencies and trends**;
- the increasing importance of qualitative information, taking into account **rapid changes in the organisation of the workplace** and the impact this may have on the skills required;
- the profound rethinking of the clustering - eg of occupations used for analysing the labour market
- the development of information and analytical tools for capturing **new occupations and occupations/professions that are strategic for the economy**"

"There is a lack of targeted information for vocational training - such as:

- the demand for different occupations and their **changing work content** ...;
- **future skills requirements** (available information refers to present skill requirements)"

Because of this reported lack of information on work content and future skill needs, this study concentrates on the 'qualitative' approach in order to provide useful and helpful support to those working in vocational education and training planning in partner states.

C. Rapid change and economic turbulence

From the early 1970s, the previous pattern of stable growth in the western European economies changed. The economic reasons for this change are too complex for this report to examine in detail - but the results are of considerable importance to the study. The subsequent period of rapid change and economic turbulence placed new demands on all enterprises and has led to profound changes in the content of occupations:

- less low skilled 'manual labour' is needed - more highly skilled labour is required, particularly at technician levels;
- the increase in product and service ranges and the reduction in product lead times means that more multi-skilled workers are needed - workers who are capable of adapting quickly to new skills demands and changing forms of work organisation;
- with the decline in traditional manual skills, more knowledge and conceptual content is needed to manage automated, computer controlled systems;
- industries which continue to rely on semi and unskilled labour are 'exported' to developing, low labour cost economies;

- operatives become directly responsible for quality assurance and improvement and the control of their own work activities;
- as systems become more complex, coordination of work activity is required at every occupational level - which increases the need for effective team working and cooperation.

Each of these changes must be reflected in the standards used to both define occupational requirements (occupational standards) and the standards used to plan vocational education and training programmes (training/educational standards).

D. The vocational education and training response

Whilst these patterns are well documented, they remain as broad generalisations backed up by anecdotal examples. Some of the patterns give clear signals to vocational education and training planners that changes in the standards used to define the vocational education and training curriculum and the vocational education and training learning process are needed urgently - but the signals are not very precise. The requirement for occupational breadth and the need for a range of core as well as occupationally specific skills is now well understood and there are many examples of innovative responses in all partner states. But the question remains - given that such important changes are taking place, what, precisely, needs to be done within the vocational education and training system to meet these important changes and challenges?

These questions will become important for colleagues in partner states - just as they are currently an issue within the western European economies. As the partner states work through the difficult transition phase from centrally planned to market economies, inward investment will increase and newly formed, local companies will realise that they will have to compete in international markets. This will mean that the partner state economies will be forced to orient towards international expectations and requirements and will come under the same pressures which affect the western European economies.

To help our colleagues in partner countries manage this process of change we have examined a number of models and approaches which have been used to improve the quality of response in the vocational education and training system. The study adopts a simple 'stimulus - response - evaluation' model.

In this model, the stimulus consists of changes in the labour market - both actual and anticipated. Because the changes within the labour market are so complex and are determined by so many factors, we have tried to prioritise the types of changes which the vocational education and training system can both recognise and respond to effectively. We phrase this as a question:

What are the most important changes and trends in the labour market to which the vocational education and training system can respond?

This helps us to focus on the types of changes that vocational education and training planners need to identify and monitor in order to change the structure and content of vocational education and training standards.

Having identified the 'input', we move on examine the types of response which are possible within the vocational education and training system and give examples from both western European and partner states. This section is also phrased as a question:

What are the most effective types of response within the vocational education and training system?

Finally we examine the important issue of evaluation. If changes in the economy are identified and the vocational education and training system is mobilised into a response, how will we know that public and private sector funds have been used effectively? What signals should vocational education and training practitioners examine in order to evaluate their success? Our final question is:

How would the response of the vocational education and training system be evaluated?

SECTION 3: CHANGES AND TRENDS IN THE LABOUR MARKET

What are the most important changes and trends in the labour market to which the vocational education and training system can respond?

There are many changes affecting the labour market and the information about those changes comes from a number of sources. In this section we examine both the **sources** of labour market information and the **types of change** which can be identified.

There is never a single source for labour market information - rather, a number of different organisations produce labour market information, usually from a number of different perspectives. The following can be identified:

A. The sources of labour market information

Source	Examples
1. State institutions	• Responsible Ministries
	• Other agencies funded by central or regional government
2. vocational education and training institutions	• National vocational education and training research and development centres
	• Associations representing colleges/vocational schools
	• Local colleges/vocational schools
	• Private training providers
	• Organisations involved in curriculum design and assessment
	• National (vocational) standard setting bodies
3. Employers and employer organisations	• National bodies representing employers
	• Chambers of commerce
	• Large employers (international companies and inward investors may be particularly important)
4. Occupational groups and social partners	• Trade associations
	• Industry groups/consortia
	• Trade unions and other similar organisations
5. Cooperative bodies	• Groups representing different, but connected interests - eg employers, trade unions, education providers
6. Professional and regulatory bodies	• Bodies which represent professions and provide education, training and qualifications
	• Bodies which regulate the activities of professions

Members of the Advisory Forum were consulted on whether these sources were available in their countries and were also asked to comment on the quality of the information received. Their responses were as follows[4]:

	BE	BG	CZ	D	DK	GB	GR	LV	LT	LU	MK	NL
A1 What are the sources of labour market information?												
(a) State Institutions	3	4	4	4	4	4	1	1	3	4	3	1
(b) vocational education and training institutions	3	4	4	4	4	3	2	3	3	1	3	3
(c) Employers and employer organisations	3	3	3	3	1	3	2	4	1	3	3	3
(d) Occupational groups	3	3	3	3	1	3	4	4	1	1	3	2
(e) Cooperative bodies	3	3	3	4	1	3	2	4	3	1	1	1
(f) Professional and regulatory bodies	3	1	1	4	1	3	3	4	3	1	1	1
Total number of sources:	6	5	5	6	2	6	5	5	4	2	4	3
Total sources accurate/useful or usually accurate/useful	6	5	5	6	2	6	2	5	4	2	4	2

What the response clearly shows is that the respondents receive labour market information from many different sources, although in some cases the information is not very useful (indicated by a score of 2). During discussions within the Subgoup it was also suggested that different sources are useful for different types of information. Here are some examples.

> It is often possible to identify small but significant changes in labour market requirements by monitoring the training activities of employers and local vocational education and training schools/colleges (including private training providers). This is particularly significant if a vocational education and training school/college has a close relationship with local employers so that they are quick to identify employer requirements. The signals can be:
>
> - increased continuing training activities by employers
> - employer requests for training in new skills
> - the development of a short course or module by a vocational education and training school/college
>
> In Hungary, a network of Regional Training Centres has been established with a flexible, modular training system. The Centres work closely with local employers to help identify needs, particularly in the new technologies5.
>
> *(It is important to note that in periods of rapid change a local provider may develop a speculative programme which does not actually meet labour market needs. In monitoring the activities of local providers, this needs to be taken into account. Only those programmes which are developed in close cooperation with local employers are likely to be useful signals of an emerging labour market need.)*

---

4 In the response ratings:
4 = the information from this source is accurate and useful
3 = the information from this source is usually accurate and useful
2 = the information from this source is not accurate and not useful
1 = we do not get information from this source
See the full matrix in Annex 2 for the country codes.

5 For further information, see: Labour market needs in adult training programmes in Hungary, Eva Fodor, in Linking Labour Market Analysis and Vocational Training, op cit.

National institutions (state, national vocational education and training centres) are more likely to be a source of future labour market requirements in certain areas. For example, new legislation is planned well in advance at the national or regional government level and any changes resulting from legislation can be built into vocational education and training programmes in advance of implementation.

In the UK, new legislation affecting the roles and responsibilities of probation officers and social workers resulted in new vocational standards and qualifications - designed and implemented before the legislation was introduced.

B. The nature of change

The vocational education and training system receives information from the labour market about significant changes, which require a response. These changes can be categorised as - changes in:

- technology
- regulations
- markets and customer requirements
- work organisation and organisational culture

Each of these categories is described in more detail below.

C. Changes in technology

Area of Technology	Commentary
Micro processor based technologies which affects communication, the processing of information and the use of multi-media.	These three areas are converging. The direct impact is on office automation, robotics, logistics, computer controlled systems and the use of the internet for communications. Development of both hardware (equipment) and software are significant. The rate of innovation and change is extremely rapid. There is also an important impact on the ability to deliver vocational education and training programmes much more flexibly, without the need for a fixed teaching location, fixed study times and fixed examinations/ assessment. In partner states the costs of computer systems are likely to slow down this trend - but companies will increasingly find that they need to increase their technological investment to compete both internally and in export markets.
The bio-technologies, including genetics	This will impact on agricultural based industries, food processing and medicine. This is a relatively new growth area and change is likely to be rapid and difficult to predict. The development costs are also very high - so the impact in partner countries may not emerge for some time.

Area of Technology	Commentary
Energy and the environment	New energy sources and technologies for extraction and use will affect basic industries (extraction, processing) and impact on occupations involved in repair and maintenance. Due to high capital and development costs and longer development lead times, change is more planned and easier to anticipate. Concern for environmental impact is now widespread and can influence occupational and vocational standards in all sectors and levels. In partner countries there may be particular concerns as 'older' industries are modernised and policies on waste management are reformed.
Materials	New materials, particularly the development of ceramics, will impact on all manufacturing operations. Development time is relatively long, so the introduction of new materials can usually be anticipated.
Chemicals (including pharmaceuticals)	New chemicals and chemical processes can impact on any manufacturing and processing operation and new pharmaceuticals will affect medical practice. Development time is relatively long, so the introduction of new chemical processes can usually be anticipated. Many partner countries have well developed chemical industries which are subject to fierce international competition, so the impact of change will be very significant.

A significant challenge posed by many changes in technology is that even if the changes can be embedded in vocational standards, it can be almost impossible for vocational education and training schools/colleges to keep up to date with the equipment and facilities needed to deliver specific programmes in this area. This is the case in the western European economies and is likely to even more of an issue in partner states.

The latest technologies are usually to be found in large and progressive companies (in partner states, many of these companies may be inward investors), some technological universities and specialised research centres. There is a growing tendency for new technologies and processes to be patented - so it may be very difficult to reproduce processes and methods, even for training purposes, without infringing patent and copyright legislation.

The cost of such technology and the pace of change means that it will not usually be available to full time vocational students. This may require vocational education and training providers to develop closer partnerships with companies and to examine the underpinning skills and competence which will be needed to exploit new technologies to the full (eg number skills, problem solving skills). It may also mean that specific training will increasingly be done within companies, with vocational education and training providers offering support in curriculum design, assessment and evaluation.

New developments in technology are often reported in trade and professional journals and a rapid training response can often be identified by monitoring the activities of significant employers, private training organisations and consultancies who may develop short courses and modules to meet new and emerging needs.

D. Changes in regulations (including legal statutes and codes of practice)

Type of legislation	Commentary
Health and safety	The growing importance of health and safety legislation will affect practice in all industries. Up to date safe working practices need to be incorporated into all vocational education and training standards and curricula - as well as the growing trend for all employees to have responsibilities for risk management and safety monitoring.
Consumer protection	This is another growth area which affects all sales related occupations and well as most manufacturing and service occupations.
Environmental protection	This type of legislation can affect working practices and methods in all sectors.
Finance and auditing	Changes in legislation affecting the provision of financial services may be particularly significant in partner states where there may not be an existing infrastructure of regulation - which is often provided by professional bodies in EU states. The primary impact is on service sectors providing financial advice and services - but this may also affect sales occupations which are involved with associated finance and loan packages. Auditing regulations will affect many business related occupations - from clerical to managerial, with a significant impact on SMEs and manager/owners.
Introduction of ISO and other international standards	As well as affecting working practices, the adoption of international standards for quality assurance processes also increases the need for accurate documentation of working practices and the creation and maintenance of recording systems.
Social legislation	The are many types of social legislation - to combat social exclusion, anti-discriminatory, minimum wage, youth protection etc. This may require changes in working practices and in learning methods.
vocational education and training legislation	vocational education and training legislation may affect the content of the curriculum (particularly the introduction of core skills[6]), the methods and processes of learning and assessment systems.

As we have noted before, legislation is usually planned in advance and draft legislation is often circulated for consultation to the social partners before it is confirmed and passed by the government. Also, there is usually a 'time lag' between the legislation being passed and implemented. This gives vocational education and training planners and curriculum designers the opportunity to adjust the standards which support the vocational education and training curriculum, and other parts of the system, to meet the new requirements.

6 The term 'core skills' is widely used in all states. However, the precise definition of core skills can vary - so the term is potentially confusing. The European Training Foundation report 'Development of Core Skills Training in the Partner Countries', Simon Shaw, Subgoup D report, 1998, contains a useful summary of the core skills categories used. Annex 4 also discusses the use of core skills.

In partner states the introduction of new legislation may develop slowly in certain areas but more rapidly in areas which are seen as a priority for social change and economic development.

Vocational education and training planners need to be aware that changes in legislation may affect the learning culture as well as working practices and knowledge requirements. For example, a change in health and safety legislation requiring employees to participate in risk assessment and safety monitoring may require the development of practical project and group work to develop observational and reporting skills - as well as formal teaching based on the new law.

E. Changes in markets and customer requirements

Type of change	Commentary
Internationalisation	As markets and companies become international and inward investment increases, many employees will need to deal with new customers, products and services, develop networks with colleagues in different countries and develop foreign language skills. Cross cultural team working may also be required. Another important feature of internationalisation is 'benchmarking' the quality of products and services with international best practice.
More direct customer contact	In almost all organisations there is increasing awareness of the importance of the customer - and the need to develop products and services which mean demanding customer expectations rather than products and services which have been designed to meet the needs of organisational efficiency. The core skills of communication and group working are extremely important in this area - in fact they become occupational rather than core skills. In partner states the development of tourism requires that employees in this industry recognise and meet the needs of sophisticated tourists.
Direct advice in selling roles	As products and services become more diverse and complex, people in sales occupations are required to offer advice to customers, often within the constraints of consumer legislation. Professional advisory services are also on the increase - again related to product and service complexity - and advisory services are often regulated with advisers required to offer advice which is the best interests of the client or customer. In partner countries the growth of professional business services like accountancy and financial investment advice will be extremely significant.
Quality standards	Globally, there is a demand for increased quality standards - both in products and services and in manufacturing and business processes. Standards are often benchmarked to international quality standards like the ISO standards and the Business Excellence Model (BEM).

Many of the changes in this area are very well documented - however, the trends are very generalised and difficult to quantify. So, for example, all countries are affected by inward investment and international mergers - but it almost impossible to predict how and when this might occur. Sometimes, inward investment is preceded by highly publicised negotiations with national governments - but on other occasions, mergers may be agreed in confidence and take place overnight.

BEST COPY AVAILABLE

This may require the development of a number of core skills, particularly in communication and group working, in advance and in anticipation of these known changes – and these requirements must be embedded as rapidly as possible into the vocational standards.

Many of the aspects of competence in this area - like customer contact skills, team working, giving advice - may be difficult to develop through a traditional vocational education and training programme based on full time education and training. Simulation of these skills through role playing exercises lacks validity and is no substitute for direct experience and learning within the work environment. vocational education and training planners may need to set up arrangements with companies to provide relevant work experience, with agreed learning outcomes, on the job coaching and assessment facilities, to develop these critical skills.

F. Changes in work organisation and organisational culture

Type of change	Commentary
Management models and systems	Prompted by both changes in production and working systems and changes in social expectations, management systems are becoming more 'democratic' and open. This results in a reduction in the number of levels of hierarchy and shifts management responsibility to the 'front line'. These changes are also the influenced by the need for greater efficiency and the elimination of wasted resources in order to remain competitive in both national and international markets. In many companies, entire levels of management have been removed. For employees at all levels this means an increased requirement for the skills of time management, work planning and prioritising, quality management, training and coaching of colleagues and both written and verbal communication.
Decline in mass production systems	In western European economies, customer expectations are changing to demand greater product diversity and wider choice, so many companies are changing from the mass production methods which were originally developed in vehicle manufacture to manufacturing systems which are more appropriate to increased product ranges. Although this trend is most prominent in vehicle manufacture, the influence is spreading to all manufacturing sectors. Production lines are being replaced by 'cellular manufacturing cells' or production teams, with multi skilled line operators taking group responsibility for work planning and organisation, quality, logistics and self development/training. Work is seen as more 'holistic' than the performance of routine, repetitive tasks and the overall knowledge requirement also increases. Low skilled labour - like labourers and cleaners - are no longer required and the entire skills profile of such companies is raised. This influence can also be seen in service and administrative sectors with the increased focus on the needs of the individual customer or service user. Health specialists work in interdisciplinary teams as do construction specialists, and office workers are increasingly grouped into project based teams.

BEST COPY AVAILABLE

Type of change	Commentary
	These developments may be slower to impact on partner countries which are still able to offer competitive wage rates, and where many industries will still be unmodernised and using more traditional production methods. However, these trends are likely to occur within inward investor companies and the competitive pressure on local companies will increase.
Rate of innovation	The rate of innovation in both production and service sectors is another feature of the drive for increased competitiveness and customer demand for wider choice. The production cycle decreases so employees need to adapt to new products and process more often and more quickly. Employees need to have a 'portfolio' of skills which can be adapted and changed to meet new requirements and must have 'learning to learn' skills. Employees also need to be willing to accept change and be committed to a process of lifelong learning. These changes will have the greatest impact in systems of continuing training. In initial training the basic occupational and core skills (including learning to learn) need to be developed, which are then followed up by short, intensive training interventions as new skill requirements emerge.
Core business philosophy	Many companies are developing a 'core business' philosophy in which activities which are not related to the core activity are contracted out or bought in as and when required. This can affect functions like production, training, catering, logistics and distribution, maintenance, design - in fact almost any function. This often increases the number of SMEs in the sector which then provide essential services on a contract basis for larger companies. This development increases the length and complexity of the supply chain and changes many of the traditional supply relationships. Rather then contract with SMEs on lowest cost criteria for each order, large companies tend to develop 'strategic partnerships' in which SME suppliers are supported, developed and given supply guarantees. This influence is likely to have an important impact in partner countries where large inward investors stimulate demand for locally sourced products and services from SMEs.
The quality organisation	Many of the new quality systems - like Total Quality Management (TQM) and 'just in time' systems - require cultural and attitudinal changes to work effectively. The development of quality assurance systems is not just a matter of accurate documentation and recording. People must be committed to quality improvement and take personal responsibility for product and service quality. Again, the impact in partner countries may be more long term - but it is important to recognise that as modernised industries become active in international markets, competitive pressures will force the same demands for quality improvement to international standards.
Growth of women in employment	In most western European states there is an increase in the number of woman in employment, and increasing numbers of women in managerial positions and in the professions. In the fast growing SME sector in the UK the majority of owner managers are women with professional level qualifications. These changes are partly influenced by anti-discriminatory legislation.

BEST COPY AVAILABLE

Type of change	Commentary
Growth in self-employment	The SME and self employed sectors are recognised as being an important source for economic growth. These sectors are expanding - particularly in partner states - and increase the need for business skills as well as occupationally specific skills in many occupations.

It is tempting to suggest that this is the most important area for change because the impact is so profound - not only on the curriculum content of vocational education and training but also on the culture, processes and practice of vocational education and training systems.

To support SMEs and self employment, new topics - like business studies and a range of core skills - have to be introduced into the vocational education and training standards, often in occupations which have little or no tradition of developing and delivering these skills. The introduction of new working methods may require changes in the learning processes in occupations where there are strong traditions of didactic training and where existing instructors and teachers may have very little direct experience of, for example, production teams.

Management training needs to change from traditional 'direct and control' assumptions about management hierarchies to a more enabling and facilitative style. Traditional approaches to management training in western Europe are also challenged by the increasing numbers of women in higher positions. Some research evidence suggests that the aggressive 'male' approach to management is incompatible with modern company structures and that women adapt more easily to the need to manage with an empowering and facilitative style. Developers of management training in partner states need to monitor these changes as industries are modernised and cultural norms change with increased democratisation.

The comments made in the previous section - that vocational education and training planners may need to set up arrangements with companies to provide relevant work experience, with agreed learning outcomes and standards, on the job coaching and assessment facilities, - also apply to this area.

The rapidity of change and innovation places great emphasis on the core skill of 'learning to learn'. Initial training is usually arranged around broad occupational 'families' to encourage the development of a broad base of occupational and core skills which can be quickly adapted to changing circumstances.

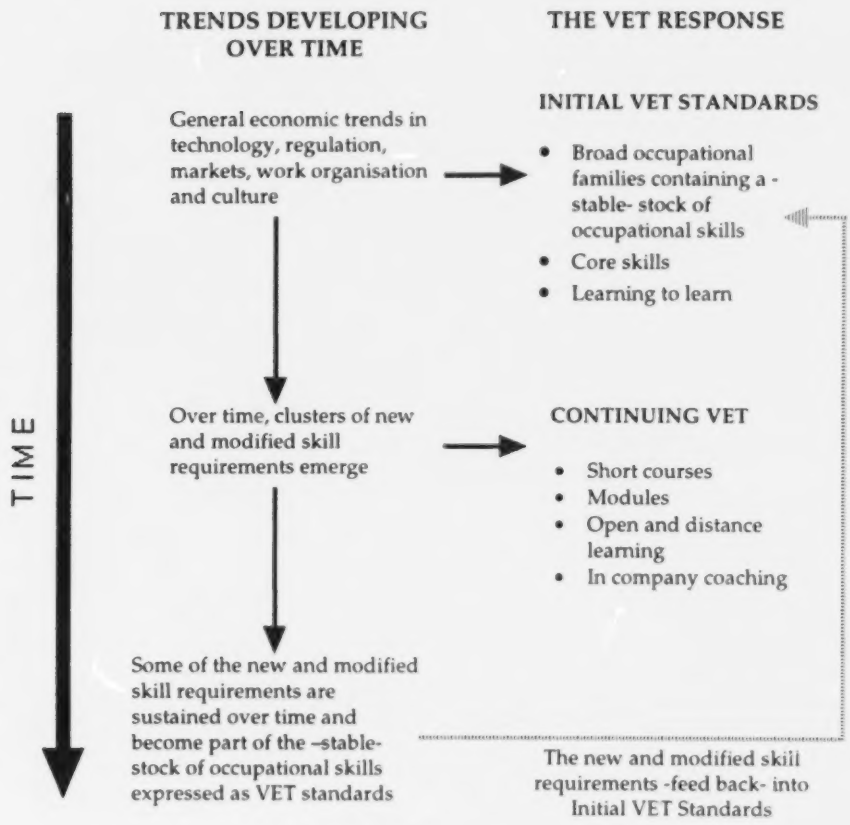
G. The change cycle

There are a number of clear trends in the economy which require a response from the vocational education and training system. This section has expanded on the known trends and given some examples of the type of important change which vocational education and training planners need to monitor on a continuing basis using the various sources of labour market and economic information described at the beginning of the section. Of particular importance is the close involvement of the social partners in tracking the changes which are taking place and in developing effective responses to the changing content of occupations.

However, these trends are not usually sufficiently detailed or specific enough to identify the precise occupational or technical skills which may be needed in the future. Also, the time lag involved in developing the vocational education and training curriculum and vocational education and training standards can mean that 'new' skills may already be out of date by the time an updated standard is introduced.

A realistic response to these general trends is to prepare people, in initial training, with a foundation of broad skills which can be adapted and updated as trends become clearer. Updating will most likely take place within continuing training. Examples of this process have already been mentioned with the example from Hungary in which short modules are developed in consultation with local companies. Other examples come from the Ukraine, Germany and Denmark where parts of the vocational education and training curriculum (between 20% and 30%) can be developed or modified by local schools/colleges in consultation with employers.

As changes stabilise, the new or adapted skills which are sustained can be fed back into the initial training curriculum. This 'cycle' is shown in the diagram below.


TRENDS DEVELOPING OVER TIME
THE VET RESPONSE
INITIAL VET STANDARDS
General economic trends in technology, regulation, markets, work organisation and culture
Broad occupational families containing a -stable- stock of occupational skills
Core skills
Learning to learn
Over time, clusters of new and modified skill requirements emerge
CONTINUING VET
Short courses
Modules
Open and distance learning
In company coaching
Some of the new and modified skill requirements are sustained over time and become part of the –stable- stock of occupational skills expressed as VET standards
The new and modified skill requirements -feed back- into Initial VET Standards
TIME

SECTION 4: THE VOCATIONAL EDUCATION AND TRAINING RESPONSE TO LABOUR MARKET CHANGES

What are the most effective types of response within the vocational education and training system?

It is possible to identify different types of response within the vocational education and training system.

A. Types of vocational education and training response

Response	Examples/Commentary
Reactive	Short term initiatives and programmes to meet specific needs and to fill skills gaps. This is often started at the local level as part of the 'cycle' described above. This can be a particularly useful response to rapid changes in technology where new equipment or materials appear and require a special programme to train and update employees. There are examples of this from many countries - in particular, the Ukraine and the Former Yugoslavian Republic of Macedonia, where short term programmes were introduced to develop CNC skills.
Responsive	Developing new standards to manage the process of change. This response is best directed at gradual changes which can be partly anticipated and will usually impact on changes in initial vocational education and training. As changes become clearer and more stable, vocational education and training planners and the social partners can start to change the Initial vocational education and training standards to meet the new requirements - to keep the vocational education and training curriculum up to date and in line with 'best practice'. Groups can be convened with the specific role of monitoring changes in the labour market and suggesting changes to the vocational education and training standards. In Lithuania, 14 Industrial Lead Bodies with tri-partite membership perform a similar function, advising vocational education and training schools and the newly established Methodological centre for vocational education and training.
Strategic	Developing vocational standards and programmes which anticipate changes in the labour market in advance of their impact, As we have already mentioned, this is often possible when there are changes in legislation which can be anticipated well in advance. Other strategic changes include the broadening of occupational families and the introduction of core skills to give future employees a broad foundation of skills which can be adapted as new labour market needs emerge.

When significant changes in the labour market are identified, the vocational education and training system may respond at a number of different levels. Here are some examples.

BEST COPY AVAILABLE

B. Levels of vocational education and training response

Response	Examples/Commentary
Policy initiatives	Educational investment decisions, special initiatives and measures, legislation and guidance. These are relatively long term measures, although special initiatives can have some impact in the medium term. The tendency is for policy initiatives to favour broad based training and the development of core skills. Pilot projects are often set up to trial new initiatives and educational incentives in the form of grants or tax relief may be offered to vocational education and training providers, companies and individuals. In periods of particular turbulence, special groups or 'task forces' may be set up to examine and report on trends and to make recommendations for change.
Curriculum design	Setting up course committees and design teams to modify and update the curriculum. This is medium term but if local flexibility is permitted, there can be a short term impact.
National standards	National specifications set by representative bodies or state ministries. These tends to be medium to long term - although there are some examples (mainly from Germany) where a standard has been modified in under a year. If special groups are set up to scan the environment for specific signals then the time scale can be reduced dramatically.
Developing local partnerships	Local partnerships between vocational schools/ colleges and companies/social partners can have an effective short term impact. Partners can work jointly on skills analysis, and placements of trainers in companies and company staff in colleges can be used to develop a high level of mutual understanding.

BEST COPY AVAILABLE

SECTION 5: EVALUATING THE VOCATIONAL EDUCATION AND TRAINING RESPONSE

How would the response of the vocational education and training systems be evaluated?

It is important to note that this section addresses the issue of evaluating the effectiveness of the vocational education and training system in **meeting the requirements of the labour market** - not evaluating the overall quality of the vocational education and training system per se.

A. Quantitative and qualitative measures

Both quantitative and qualitative measures can be used for evaluation. The criteria are summarised in the table below.

Quantitative measures	• meeting national standards and targets for the numbers entering training and achieving qualifications; • average length of unemployment for different qualification levels, qualification types and sectors; • numbers entering or re-entering employment from initial training; • how long employment is sustained; • type of employment entered (full time/part time, self employment etc - note - in some partner states the proportion entering self employment may be an important target); • numbers and proportion of cohort achieving qualifications and certificates (overall); • numbers and proportion of cohort achieving qualifications and certificates at defined levels; • numbers and proportions in different pathways (ie 'vocational', 'academic' etc) • numbers progressing to higher levels of vocational training; • tangible impact on the performance of organisations and enterprises (turnover, market share, productivity, profitability, quality improvement, customer satisfaction); • level of in-company continuing training (including requests for training provision and support); • reduction in reported skills shortages and 'hard to fill vacancies'[7]; • economic indicators (reduction in poverty, reduction in accidents/industrial disease, rise in GDP etc).

[7] In the UK a distinction is made between skills shortages and hard to fill vacancies. The number of hard to fill vacancies is the difference between the total labour market demand for a skill and the total labour market supply. This may be a function of a genuine failure of the labour market to respond in time to changing demands in industry - which is a skills shortage - but this may also be caused by a lack of labour market competitiveness (low rewards, bad working conditions, unattractive location) or the setting of unrealistically high standards for recruitment.

Qualitative measures	• student/trainee satisfaction; • the quality and appropriateness of the learning process; • employer satisfaction; • meeting social goals (eg greater access for underprivileged groups, reduction in 'social exclusion', increase in general educational level); • improved motivation and self esteem; • willingness and ability to participate in continuing education; • changes in organisational culture.

Not all of the criteria suggested above will be relevant in each case. In different partner states, national policies will vary so different criteria will be chosen.

We should also note that many of these criteria, particularly some of the qualitative criteria, are extremely difficult to measure[8] - although this does not mean that they should be ignored. In particular, the level of employer satisfaction with the graduates of vocational education and training programmes should be closely monitored.

B. A framework for evaluation

A useful framework for evaluation is suggested by Nils Asmussen[9] in which he summarises the work of previous researchers. Asmussen suggests that there are four evaluation 'levels':

Evaluation Level	Explanation
1. Reactions	The degree of satisfaction expressed by participants - typically measured by means of reaction questionnaires.
2. Learning	Assessment of the knowledge and skills learned and the attitudes which have changed - ideally measured before and after the training programme.
3. Job behaviour	Changes in participant job behaviour - preferably measured by data collected before the training programme and about three months after the programme (to check whether behaviours has been sustained).
4. Results	Changes in the organisation which can be directly attributed to the training programme. Best measured by existing management or production information systems.

Although this research concerned continuing vocational education, the results are also relevant to initial vocational education. In initial vocational education and training, reactions are learning are usually measured very effectively through the assessment

Some skills shortages may be experienced by employers - but may not result in a hard to fill vacancy. Shortages may be internal - within the existing workforce - and employers may choose to respond by reducing the level of service or product quality or accepting reduced efficiency.
The vocational education and training system can only respond to genuine skills shortages, so vocational education and training planners may need to analyse reported skill shortages very carefully.

8 Some of the issues involved in evaluation are discussed in the CEDEFOP report, 'Evaluation of quality aspects in vocational training programmes, Synthesis Report', Erwin Seyfried, 1998.

9 Nils Asmussen, Training Evaluation, CUE Consult Ltd, Aarhus, Denmark, 1996.

BEST COPY AVAILABLE

and certification process. However, as Asmussen notes 'research in the area shows that data is not normally collected'.

SECTION 6: THE VOCATIONAL EDUCATION AND TRAINING RESPONSE - SUMMARY

During this study a number of important themes have emerged which suggest ways in which vocational education and training standards can be developed to respond to changes in the labour market. These changes are to the **content** of occupations - rather then the numbers employed. The themes are summarised below.

Major themes

Vocational education and training response	Commentary	Examples
Broad occupational families	There is a tendency for occupations to be grouped into broader occupational groupings or 'families' for initial training purposes - rather than narrow occupations and jobs. The emphasis is on broad based training in relatively stable occupational skills, which can be adapted as the content and structure of jobs change.	In Germany, the 350 training occupations are being reduced to less than 300. Russia recently adopted a list of 270 training occupations, the Ukraine, 260 and Turkey is developing some 250. Similar changes are occurring in many partner states.
Broader descriptions of work activity - 'functions' and 'outcomes'	Because jobs content and work tasks change so rapidly, there is a trend for work content to be expressed as functions or outcomes, which allows for changes in technology and work organisation.	The UK used a method called 'functional analysis' between 1990 and 1997 to analyse occupations. Although no longer mandatory, the method is still widely used. Germany describes 'work tasks and functions' in its training curricula, as does Turkey, assisted by the German research institute BIBB, using 'writing teams' made up of practitioners from the trade/occupation. The Czech Republic describes 'sets of work activities'.
Core skills development	Core skills are specified as part of the vocational curriculum to prepare people for future change and adaptability. Together with the broad based occupational family approach, this prepares people for flexible employability in a wide range of potential jobs.	The UK 'key skills' have to be identified within vocational education and training standards and qualifications. The same key skills are being introduced into secondary schools as a separate qualification and will be also be used at university level. Similar developments may be seen in all partner states - as one respondent commented, 'the demand for broad based qualifications and the need for core skills is so clearly understood that there is no need to comment'.

BEST COPY AVAILABLE

Vocational education and training response	Commentary	Examples
Flexible learning design - modularisation	Curricula and qualifications are broken into 'modules' or 'units' which can be combined in different ways to give flexibility in learning design. Combinations of modules can be developed to meet local, company, sector or national needs.	There are examples of this trend in almost all western European and partner states.
Flexible learning delivery - open/distance learning and work based learning	Although this is becoming common in continuing vocational education, flexible delivery is also a growing feature of initial training. Open and distance learning is encouraged by the development of computer technology. Work based learning, combining vocational education with on job training, becomes more important as technologies change so rapidly that vocational schools and colleges are unable to keep pace with the rate of change.	The NVQs is the UK have to be available for flexible delivery. NVQs cannot be delivered solely through a mandatory course of fixed duration. Work based learning routes are the most common form of delivery for NVQs - particularly in the Modern Apprenticeship.
Flexible qualification design - local flexibility, 'core and option' systems	Mandatory national curricula and qualifications are made more flexible by allowing local vocational education and training providers to specify a proportion of the curriculum to meet local and regional needs.	In Germany, Denmark and the Ukraine, local vocational education and training providers are permitted to modify up to 30% of the vocational education and training curriculum to meet local and regional needs.
	Modular and unit based qualifications may be offered as a common 'core' of mandatory units, with options chosen by students to reflect personal preferences and local, sector and company needs.	In the UK, each NVQ is offered as a 'core' of mandatory units plus a number of optional units chosen by the candidate.
Flexibility in the development of standards	Vocational standards are often thought of as being inflexible and slow to respond to changes in labour market requirements. However, there are approaches and methods which are designed to allow standards (both occupational and vocational) to be updated quickly.	Annex 5 contains a discussion of this issue and an example of 'flexible' standard.
Partnership approach to design and implementation involving the state, employers, employees (unions), vocational education and training providers and individuals	It is becoming clear that all those involved in the development and employment of the skilled workforce need to contribute to the design and implementation of vocational education and training programmes. This is not just a matter of the importance of democratic processes - without employer and employee involvement, vocational education and training systems can quickly become out of date.	In Germany employers and trade unions assisted by vocational education and training-researchers of the Federal vocational education and training Institute (BIBB) have designed four new occupational standards in less than one year in the field of Information and Communication. They have been adopted as national standards by the government and, over the last two years, more than 10,000 apprentices have taken up training programmes.

BEST COPY AVAILABLE

Vocational education and training response	Commentary	Examples
		Poland has Employment Councils at three levels (state, region, local), consisting of trade unions, employers organisations, educational authorities and local or central government. The Councils advise on labour market changes and, at local level, assist in curriculum development.
Analysis of labour market needs in terms of content	Although accurate statistical information is critical to vocational education and training planners, it is important to review and update the content of occupations to inform vocational education and training curriculum design. The traditional process of vocational education and training design may be too slow for periods of rapid change.	In the Czech Republic, a number of Branch Groups, consisting of social partners and vocational education and training planners, collect and process information on new qualification requirements which is fed back to the national vocational education and training research institute. Germany is developing a system to spot the changing needs of the economy. Job advertisements are scanned, company retraining measures and continuing training activities are monitored to identify early reactions to changes in the labour market. In the UK, each National Training Organisation (NTO) is required to conduct a 'Skills Foresight' analysis. The guide to this process states 'One of the core activities of an NTO is the gathering and interpretation of labour market information and the assessment of current and future skill needs'.

BEST COPY AVAILABLE

SECTION 7: CONCLUSIONS AND RECOMMENDATIONS

A. Conclusions

The labour market has changed from a process of slow and even development to one of turbulence and rapid change. This requires an approach to labour market analysis based on the predicted and actual changes in the content of occupations – which is then expressed in vocational and occupational standards. These standards are used to develop vocational education and training programmes which align more closely to the needs of the labour market.

There are significant areas of change which impact on the development of vocational education and training standards – the most important are changes in technology, legislation, markets and organisational culture. Some of these changes are extremely rapid and difficult to predict (eg technology) whilst others are more easy to anticipate (eg legislation).

A realistic response to these changes is to prepare people, in initial training, with a foundation of broad skills which can be adapted and updated as trends become clearer. Updating will most likely take place within continuing training. As changes stabilise, the new or adapted skills which are sustained can be fed back into initial training standards.

An effective vocational education and training response depends on both the type of change and the level of response. Rapid changes require a quick reaction – usually through continuing training. Longer term changes allow vocational education and training planners to develop standards to support the change process (the 'responsive' type of change) or to develop standards which anticipate the change and lead practice (the 'strategic' response). The level of response may vary from government policy initiatives, the design of new curriculua, the development of new national standards and the development of local partnerships.

The response of the vocational education and training system should always be evaluated and both quantitative and qualitative indicators should be used.

Finally, there are clear themes emerging in western and eastern Europe which typify the response of the vocational education and training system to labour market changes. These are:

- Broad occupational families
- Broader descriptions of work activity - 'functions' and 'outcomes'
- Core skills development
- Flexible learning design - modularisation
- Flexible learning delivery - open/distance learning and work based learning

- Flexible qualification design - local flexibility, 'core and option' systems
- Flexibility in the development of standards
- Partnership approach to design and implementation involving the state, employers, employees (unions), vocational education and training providers and individuals
- Analysis of labour market needs in terms of content

B. Recommendations

On the basis of discussions at the Subgroup Experts and Chairs meeting in Turin on 18 June 1999, the following recommendations are made:

1. The report is published as the third in the series of the 'Standards Manuals'.
2. The European Training Foundation continue to investigate the role of standards in anticipating labour market requirements – the 'responsive' and 'strategic' approaches described in the report.
3. The summary themes described in Section 6 of the report be used as a tool to evaluate the progress of partner states in developing effective vocational education and training systems.
4. It was noted that some of the issues and approaches described in this report may not be immediately relevant to Phare and Tacis countries because of different rates of change and innovation. Consequently, it might be useful for the European Training Foundation to set up a discussion forum to identify priority issues for different partner states and to assess how new methods could be introduced into the developing vocational education and training systems.

Finally, it is possible that Subgoup C may wish to add further recommendations following the meeting of the European Training Foundation Advisory Forum which will take place during September 1999 in Turin.

ANNEX 1: THE QUESTIONNAIRE

Section A: Labour Market Information

A1 What are the sources of labour market information?

Scoring: 4 = the information from this source is accurate and useful
3 = the information from this source is usually accurate and useful
2 = the information from this source is not accurate and not useful
1 = we do not get information from this source

A1(a):	State Institutions	1 2 3 4
A1(b):	VET institutions	1 2 3 4
A1(c):	Employers and employer organisations	1 2 3 4
A1(d):	Occupational groups	1 2 3 4
A1(e):	Cooperative bodies	1 2 3 4
A1(f):	Professional and regulatory bodies	1 2 3 4

A2 How is labour market information identified and collected?

Scoring: 4 = this method produces accurate and useful information
3 = this method produces information which is usually accurate and useful
2 = this method produces information which is not accurate and not useful
1 = we do not use this method

A2(a):	Special surveys	1 2 3 4
A2(b):	Collecting and collating existing data	1 2 3 4
A2(c):	Scanning the environment	1 2 3 4

A3 How is labour market information expressed?

Scoring: 2 = we do receive information expressed like this
1 = we do not receive information expressed like this

A3(a):	Skills	1 2
A3(b):	Work activities	1 2
A3(c):	Jobs or occupational categories	1 2
A3(d):	Outcomes	1 2
A3(e):	Economic trends	1 2

A4 If trends are identified in labour market information, what is the nature of the trend?

Scoring: 4 = trends of this type have been identified and are extremely important
3 = trends of this type have been identified and are moderately important
2 = trends of this type have been identified but are not considered to be important
1 = trends of this type have not been identified

A4(a):	Changes in technology	1 2 3 4
A4(b):	Changes in regulations	1 2 3 4
A4(c):	Changes in markets and customer requirements	1 2 3 4
A4(d):	Changes in work organisation	1 2 3 4
A4(e):	Changes in organisational culture	1 2 3 4

Section B: How the VET system responds to Labour Market Information

B1 How does labour market information influence the VET system?

Scoring: 2 = Yes, there are examples of this response
1 = No, I do not know of any examples of this response

B1(a):	Policy initiatives	1 2
B1(b):	Curriculum design	1 2
B1(c):	National training standards	1 2
B1(d):	Scanning the environment	1 2

B2 Which part of the VET system is influenced?

Scoring: 2 = Yes, there are examples of this response
1 = No, I do not know of any examples of this response

B2(a):	The input	1 2
B2(b):	The process	1 2
B2(c):	The outcomes	1 2

B3 How does the VET system respond?

Scoring: 2 = Yes, there are examples of this response
1 = No, I do not know of any examples of this response

B3(a):	Reactive	1 2
B3(b):	Responsive	1 2
B3(c):	Strategic	1 2

Section C: Key Themes in the relationship between the VET system and the labour market

Scoring: 2 = Yes, there are examples of this
1 = No, I do not know of any examples of this

C1	Is there evidence of a demand for broader based qualifications?	1 2
C2	Is there evidence of curriculum reform which stresses the need for core/basic/transferable skills?	1 2
C3	Are there examples of cooperation between government agencies, education and training providers and the social partners?	1 2

Many thanks for your help.

ANNEX 2: THE QUESTIONNAIRE RESPONSE

Labour Market and VET Standards Questionnaire - Responses

	BE	BG	CZ	D	DK	GB	GR	LV	LT	LU	MK	NL	Summary			
A1 What are the sources of labour market information?													4	3	2	1
(a) State Institutions	3	4	4	4	4	4	1	1	3	4	3	1	6	3	0	3
(b) VET institutions	3	4	4	4	4	3	2	3	3	1	3	3	4	6	1	1
(c) Employers and employer organisations	3	3	3	3	1	3	2	4	1	3	3	3	1	8	1	2
(d) Occupational groups	3	3	3	3	1	3	4	4	1	1	3	2	2	6	1	3
(e) Cooperative bodies	3	3	3	4	1	3	2	4	3	1	1	1	2	5	1	4
(f) Professional and regulatory bodies	3	1	1	4	1	3	3	4	3	1	1	1	2	4	0	6
A2 How is labour market information identified and collected? (Rating)													4	3	2	1
(a) Special surveys	3	4	4	4	3	N/A	2	4	3	4	4	4	7	3	1	0
(b) Collecting and collating existing data	3	4	4	4	3	N/A	1	3	1	4	2	4	5	3	1	2
(c) Scanning the environment	3	3	3	4	3	N/A	3	3	2	4	2	3	2	7	2	0
A3 How is labour market information expressed? (Yes/No)															Yes	No
(a) Skills	N/A	2	2	2	1	2	1	2	1	1	1	2			6	5
(b) Work activities	1	2	2	2	1	2	2	2	2	1	2	2			9	3
(c) Jobs or occupational categories	1	1	1	2	2	2	1	1	1	2	2	2			6	6
(d) Outcomes	1	2	2	2	1	2	1	2	1	1	2	2			7	5
(e) Economic trends	2	2	2	2	2	2	1	2	2	2	1	2			10	2
A4 If trends are identified in labour market information, what is the nature of the trend? (Rating)													4	3	2	1
(a) Changes in technology	3	4	4	4	4	N/A	2	4	3	4	4	4	8	2	1	0
(b) Changes in regulations	2	3	3	4	2	N/A	1	3	1	4	4	3	3	4	2	2
(c) Changes in markets and customer requirements	3	3	4	4	4	N/A	3	4	4	4	4	3	7	4	0	0
(d) Changes in work organisation	3	3	3	4	4	N/A	1	4	1	3	3	4	4	5	0	2
(e) Changes in organisational culture	3	3	2	3	4	N/A	3	3	2	3	2	4	2	6	3	0
B1 How does labour market information influence the VET system? (Yes/No)															Yes	No
(a) Policy initiatives	2	2	2	2	2	2	1	2	2	2	1	2			10	2
(b) Curriculum design	2	2	2	2	2	2	1	2	2	2	1	2			10	2
(c) National training standards	2	2	2	2	1	2	1	2	1	2	2	2			9	3
(d) Scanning the environment	2	2	2	2	2	2	2	2	2	1	1	2			10	2
B2 Which part of the VET system is influenced? (Yes/No)															Yes	No
(a) The input	1	2	2	2	2	2	1	2	2	2	2	2			10	2
(b) The process	1	2	2	2	2	2	1	2	2	2	1	1			8	4
(c) The outcomes	1	2	2	2	2	2	1	2	2	2	2	2			10	2
B3 How does the VET system respond? (Yes/No)															Yes	No
(a) Reactive	2	1	2	2	2	1	1	1	2	2	2	2			8	4
(b) Responsive	N/A	2	2	2	2	2	1	2	2	2	1	2			9	2
(c) Strategic	1	2	2	2	1	2	1	2	2	1	1	2			7	5
C Key Themes in the relationship between the VET system and the labour market (Yes/No)															Yes	No
C1 Is there evidence of a demand for broader based	1	2	2	2	2	2	1	2	2	2	2	2			10	2
C2 Is there evidence of curriculum reform which st	1	2	2	2	2	2	2	2	2	2	1	2			10	2
the need for core/basic/transferable skills?																

BEST COPY AVAILABLE

ANNEX 3: SUBGROUP C WORKSHOP BRIEFING NOTES

Sub Group C
The Impact of the Labour Market on Vocational Standards

Working Group – Briefing 1

What are the most important changes and trends in the labour market to which the VET system can respond?

The VET system receives information from the labour market about significant changes, which require a response. The changes may be:

- in technology
- in regulations (including legal statutes and codes of practice)
- in markets and customer requirements (including 'internationalisation')
- in work organisation
- in organisational culture

The Working Group is asked to:

1. **Expand** on each of the categories above to detail specific changes.
2. **Give specific examples** of these changes from their own countries.
3. **Suggest** any new categories/examples to add to the list.
4. **Rate** the relative importance of each example of change - using the scale:

4 =	extremely important - this is critical to economic success
3 =	important - this is a factor in economic success
2 =	not important - although this is happening, it is not significant for economic success
1 =	this change has not yet been identified

5. **Evaluate** the urgency of responding to each example of change using the scale:

4 =	this is happening now - little has been done to meet this need and an immediate response is needed
3 =	there are signs of this starting to happen - we must start to plan to meet this need
2 =	this may happen in the future - we need to plan to meet this need if it becomes important
1 =	although this may happen in the future it is not likely to be significant, so immediate planning is not necessary

Working Group – Briefing 2

What are the most effective types of response within the VET system?

VET systems may respond to changes in the labour market in a number of different ways for example:

- Policy initiatives (eg, educational investment decisions, special initiatives and measures);
- Curriculum design (eg, setting up course committees and design teams);
- National training standards (eg, national specifications set by representative bodies or state ministries);
- Scanning the environment (eg, special investigations to examine particular aspects of labour market change to obtain further information).

The type of response may be:

- Reactive (eg, short term initiatives and programmes to meet specific needs and to fill skills gaps);
- Responsive (eg, developing new systems to manage change);
- Strategic (eg, developing vocational standards which anticipate changes in the labour market in advance of their impact).

To help our colleagues in all partner countries, we would like the Working Group to produce examples of these responses to the changes identified in Working Group 1. This will involve:

1. **Selecting** an example of an important change (identified during the Working Group 1 session).
2. **Identifying** the response and the type of response.

The object of this session is to produce some case studies which show the changes in the labour market which are significant and the type of response.

Members of the Working Group are also invited to suggests changes and additions to the categories of response we have suggested.

Working Group - Briefing 3

How would the response of the VET systems be evaluated?

In this working session we invite the Working Group members to consider the important issue of evaluation. There are a number of criteria which might be used to evaluate the effectiveness of the VET system in meeting the requirements of the labour market - for example:

Quantitative measures:

- numbers entering or re-entering employment;
- how long employment is sustained;
- type of employment entered (full time/part time, self employment etc);
- numbers achieving qualifications and certificates (overall);
- numbers achieving qualifications and certificates (at defined levels);
- numbers progressing to higher levels of vocational training;
- tangible impact on the performance of organisations and enterprises (turnover, market share, productivity, profitability);
- economic indicators (reduction in poverty, health statistics, rise in GDP etc).

Qualitative measures:

- student satisfaction;
- employer satisfaction;
- meeting social goals (eg greater access for underprivileged groups, reduction in 'social exclusion', increase in general educational level);
- improved motivation and self esteem;
- willingness to participate in continuing education;
- changes in organisational culture.

Working Group members are invited to examine these categories and to:

1. **Suggest** changes and additions to the suggested criteria for evaluation
2. **Rank** the criteria using the scale:

3 =	meeting this criterion depends primarily on the quality of the VET system
2 =	the VET system contributes to this, but is not solely responsible
1 =	the VET system can to little to influence this criterion

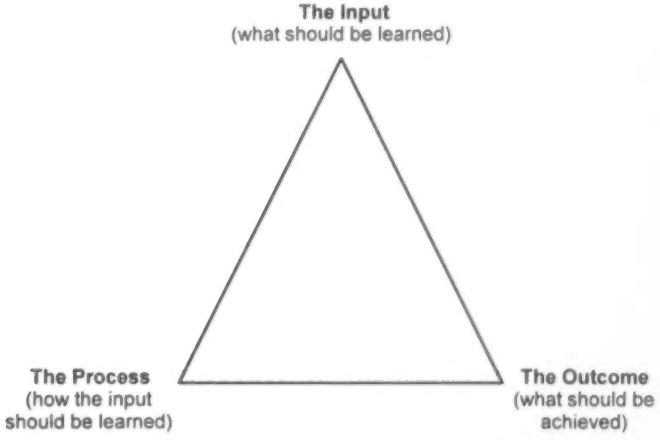
ANNEX 4: SUBGROUP C MEMBERSHIP

ANNEX 5: FLEXIBLE STANDARDS

Conventionally, we think of vocational education and training as having three components:

- **The input** – the description of what should be learned (usually called the curriculum);
- **The process** – a description of the way in which learning will take place (which will include the location and duration of learning, learning methods etc);
- **The outcome** – the level of competence which the learner is expected to achieve (this may be described as learning outcomes for a training or educational standard or a performance outcome for an occupational standard).

We can express the relationship between inputs, processes and outcomes as a simple diagram:



In different VET systems the relationship between these components will be different and the degree of specification will also be different. This is important if we have to consider the flexibility of the standard in response to changes in the labour market. If all three components are closely defined, then the compete standard becomes inflexib'e and it is difficult to respond rapidly to change. Here, the diagram is a useful analogy – if we fix the three points of a triangle, then it cannot move in any direction.

Flexibility in response to the labour market

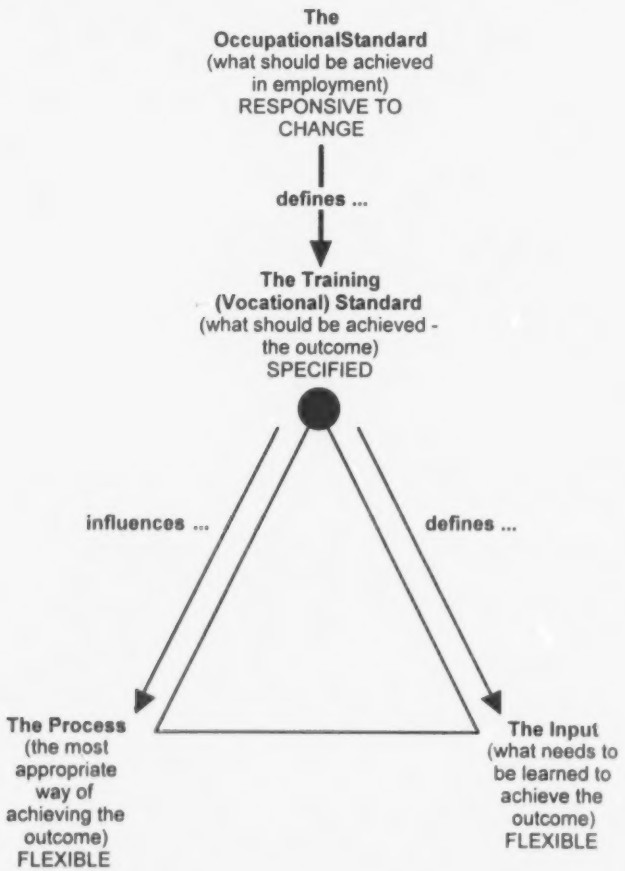
However, it is possible to have standards which allow some flexibility – and here the choice is whether the input, process or outcome is allowed a degree of flexibility.

If we fix (specify) the input (the curriculum) then we can allow flexibility in the learning process. The curriculum can be delivered in a number of different ways to meet labour market needs. This may be through open and distance learning, self study, short modules as well as full time training programmes. But if we only fix the input, then the outcome can vary as well because we have not specified what the person has to achieve – only what they have to learn.

Clearly, we have to specify the outcome – and this is what we mean by 'standards based' vocational education and training. The VET system is based primarily on what people need to achieve. This is what we specify first - precisely what they learn and how they learn it are secondary issues.

This is different from some traditional VET systems in which only the input and processes were specified. In these systems a curriculum committee would meet to define the input and the learning processes were already fixed – through vocational schools, colleges or dual systems. This meant that the outcomes could vary.

In standards based systems the outcomes are defined as closely as possible to the expectations of employment – so the educational standards are set against occupational standards. This, in turn, will define the input (what has to be learned to achieve the outcome) and the process (the most appropriate method of achieving the outcome) as shown in the diagram below.



This model requires VET planners and VET professionals (teachers, tutors) to be directly involved in the planning of the inputs and processes – usually within a general framework of guidance and quality assurance – in order to meet the required outcomes.

But even this model can lack flexibility if the development of the outcome standard is a slow process. The answer is to make the standards development process flexible as well – and we can achieve this by separating the components of the outcome standard.

To do this we can distinguish between three components:

1. A description of what needs to be achieved
2. The performance requirements
3. The range of different variations to which the standard applies

Here is an example:

What needs to be achieved	The performance requirements	The range of different variations
Reproduce copies of documents	Technical requirements: • Checking that all the required *consumables* are available and obtaining them if necessary • Checking that the equipment is ready to use • Adjusting the equipment to take account of the quality of the original and the *printing requirements* • Operating the equipment according to the manufacturer's instructions • Producing the number of copies that are needed • Checking that the copies meet the *quality required* • Reprinting any copies which do not come up to the required standard • Resetting the equipment for the next person to use Managing the process: • Making sure that adequate stocks of materials and consumables are always available • Responding to breakdowns by following problem solving guides • Asking for help when the problem is beyond your competence	Consumables: • copy paper; • other printing consumables (transparencies, card etc); • toner; Printing requirements: • single sided copies; • double sided copies; • collated copies; • stitched and bound copies; Quality requirements: • clear and unmarked; • square on the page;

Notice that the standard is written in a way which avoids any mention of the precise technology or method which is to be used. This is deliberate – and makes the standard more flexible. Clearly, this standard is about photocopying – but photocopiers are not mentioned at all. This is particularly important for the statement of 'what needs to be achieved' and the 'performance requirements'. In the 'range of variations' it becomes clear what technology is being used because 'toner' is mentioned. We know that there is a range of variations because the range 'category' is highlighted in the performance requirements by the use of ***bold italic*** type.

BEST COPY AVAILABLE

The significance of this approach is that this standard could also be used to describe printing using other technologies and methods – for example, spirit duplicating and offset litho printing – and the differences can be made explicit simply by changing the range of variations. Instead of 'toner' we would insert 'printing master' or 'printing ink'.

By using this method, VET planners can track changes in technology and adjust the range of variations – the rest of the standard remains the same. In the future, new requirements can be added to the range – because whatever changes we can imagine, office workers will still need to be able to 'reproduce copies of documents'.

If technologies change substantially, changes can also be made to the performance requirements and also to the outcome statement – but for most changes only the range needs modification.

For VET planning, an outline curriculum can be prepared to meet the performance requirements – but precise details may have to be developed locally to meet the specific requirements in the range of variations.

This example is relatively simple – but the approach can be used to define standards in very complex occupations, including professional activities.